

Fig. 1

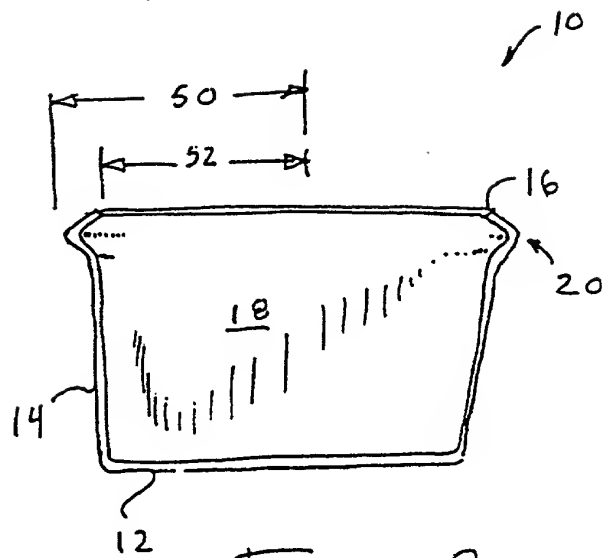


Fig. 2

10054566.011002

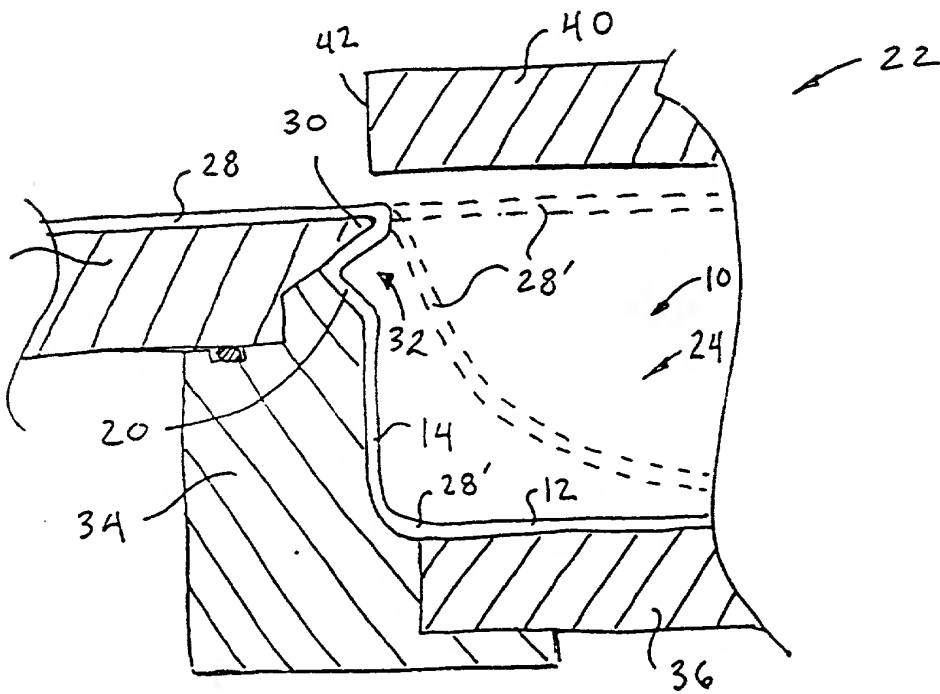
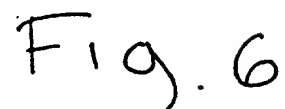
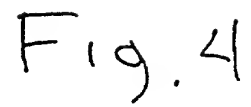
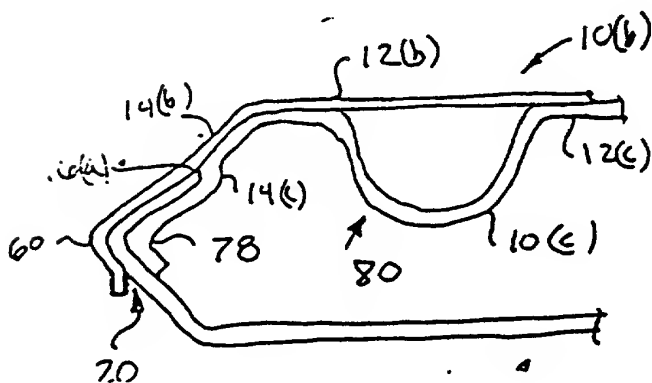
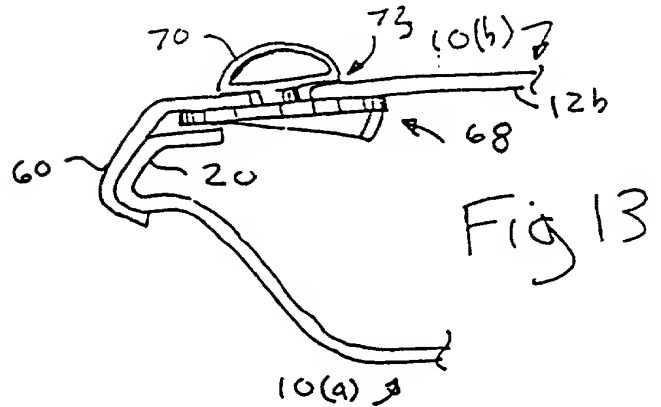
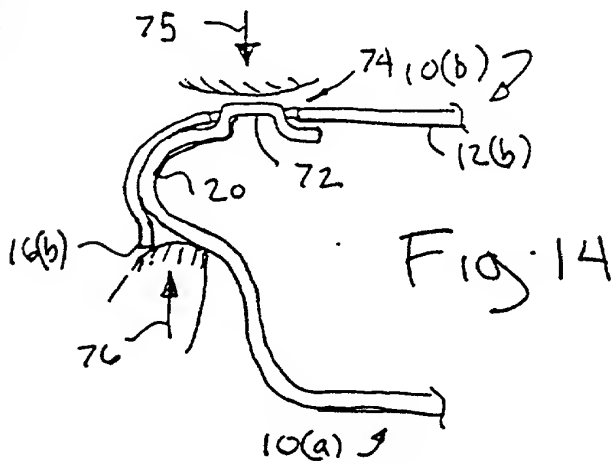
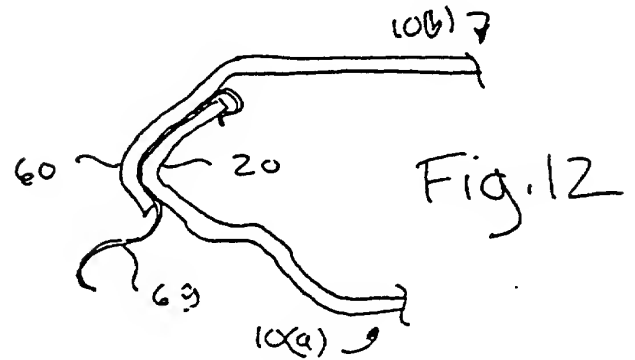
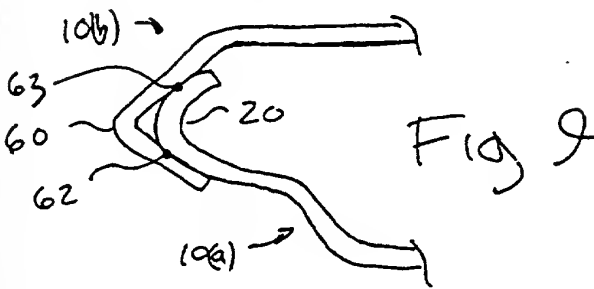
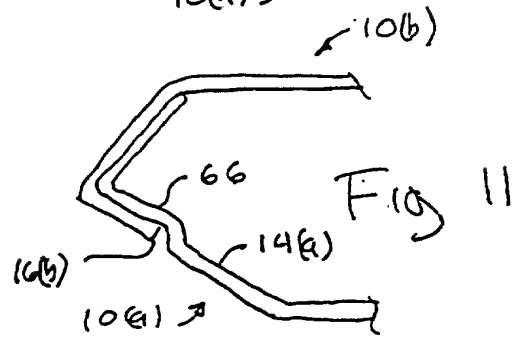
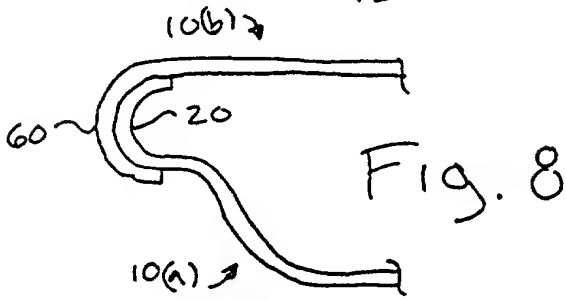
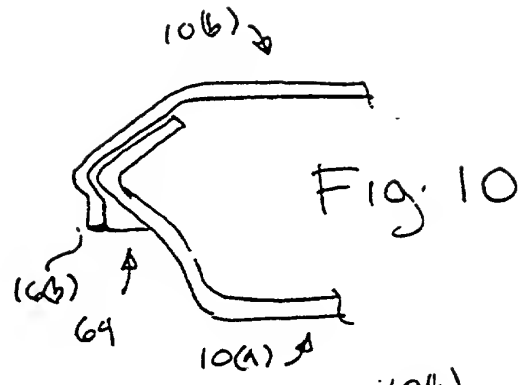
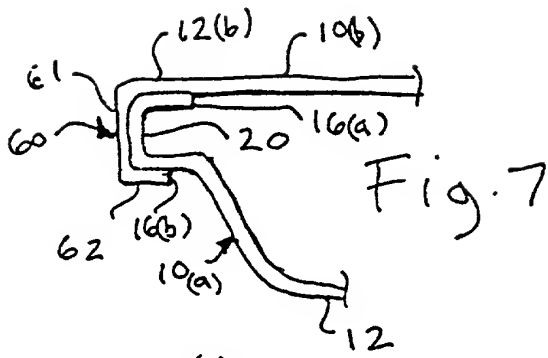


Fig. 3





10051556-011802

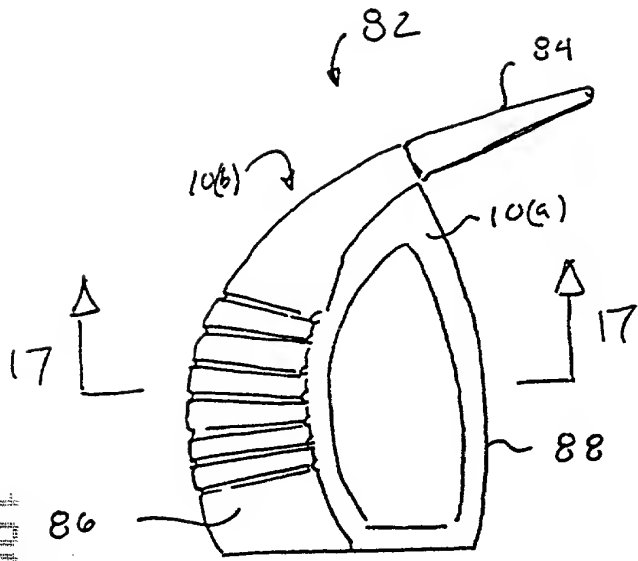


Fig 16

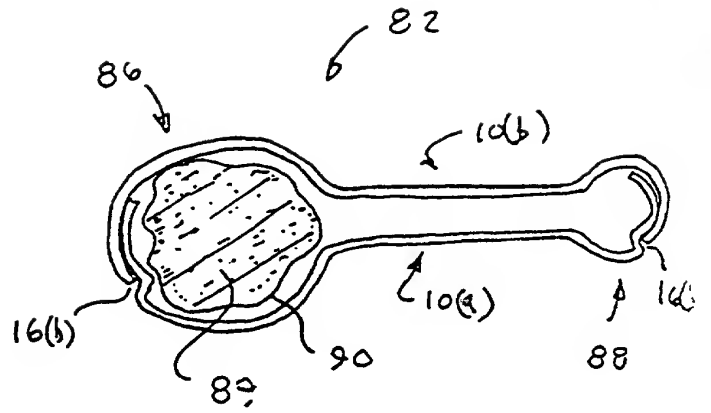


Fig 17

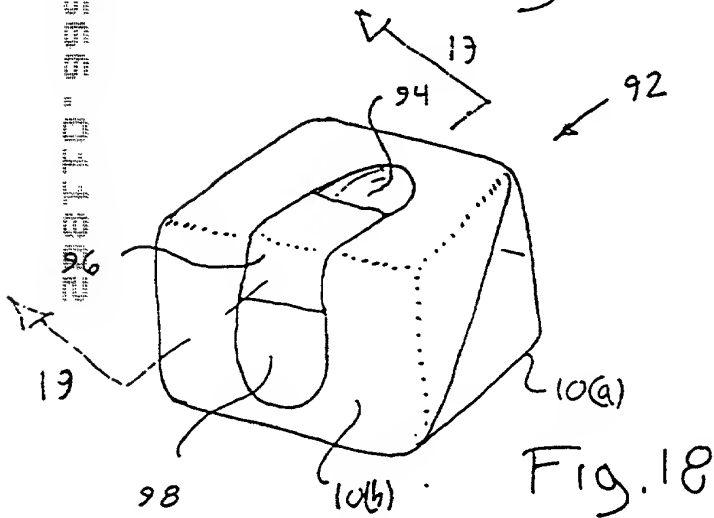


Fig. 18

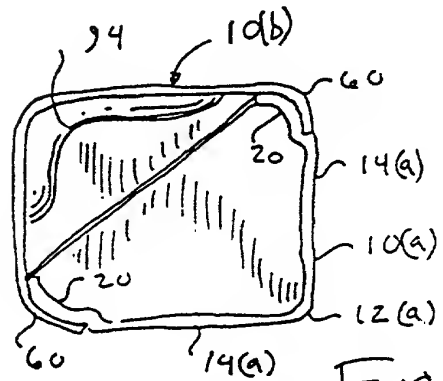


Fig 19

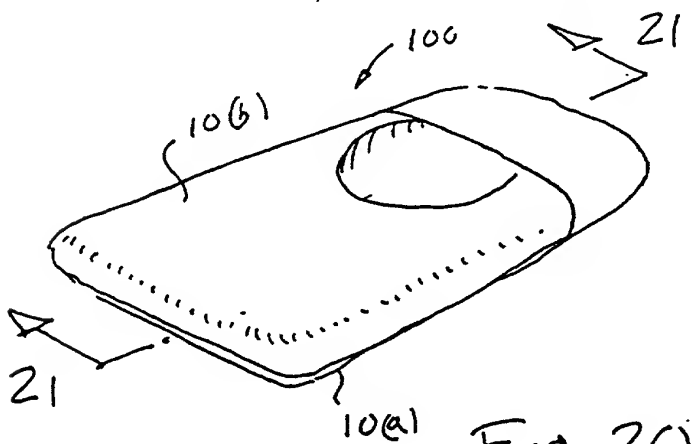


Fig 20

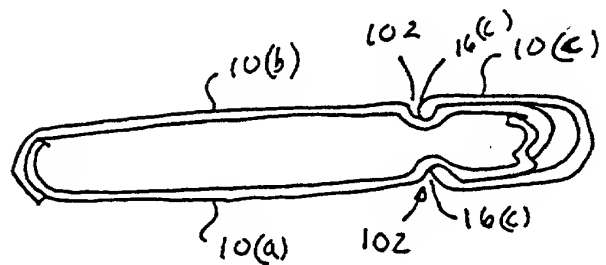


Fig 21

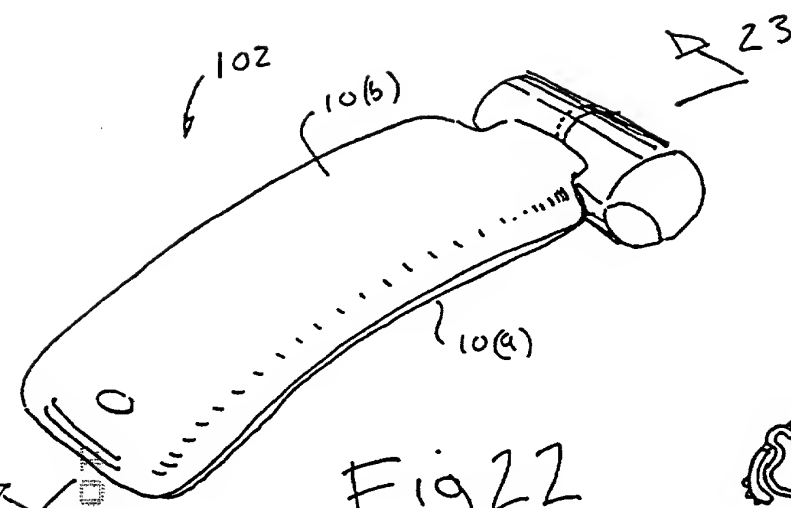


Fig 22

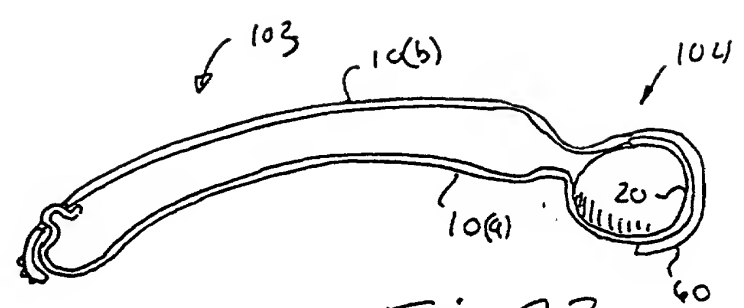


Fig. 23

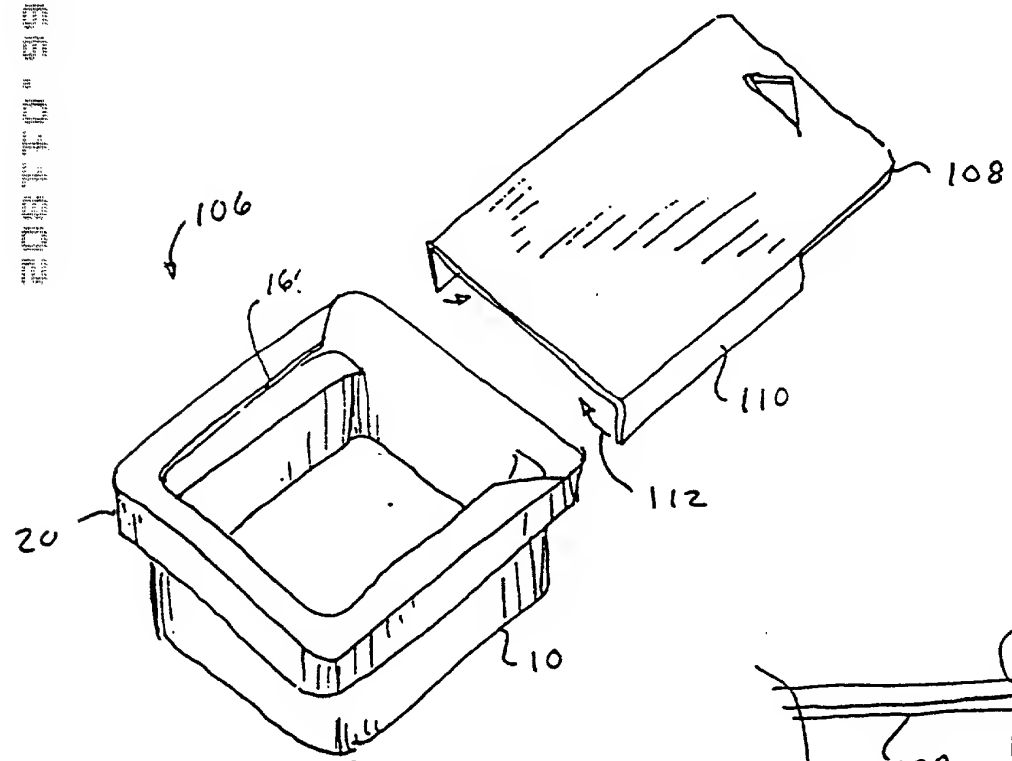


Fig 24

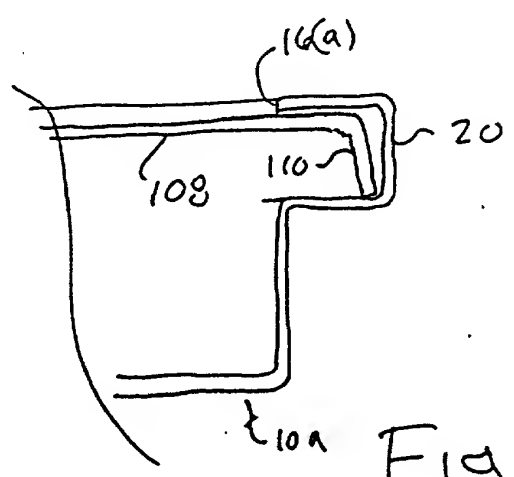


Fig. 25

2025-01-15 15:00

Form 3.3 Rev 4/17/00

1. A HEATED PLASTIC SHEET IS INDEXED INTO A POSITION OVER THE UPPER MOLD HALF.

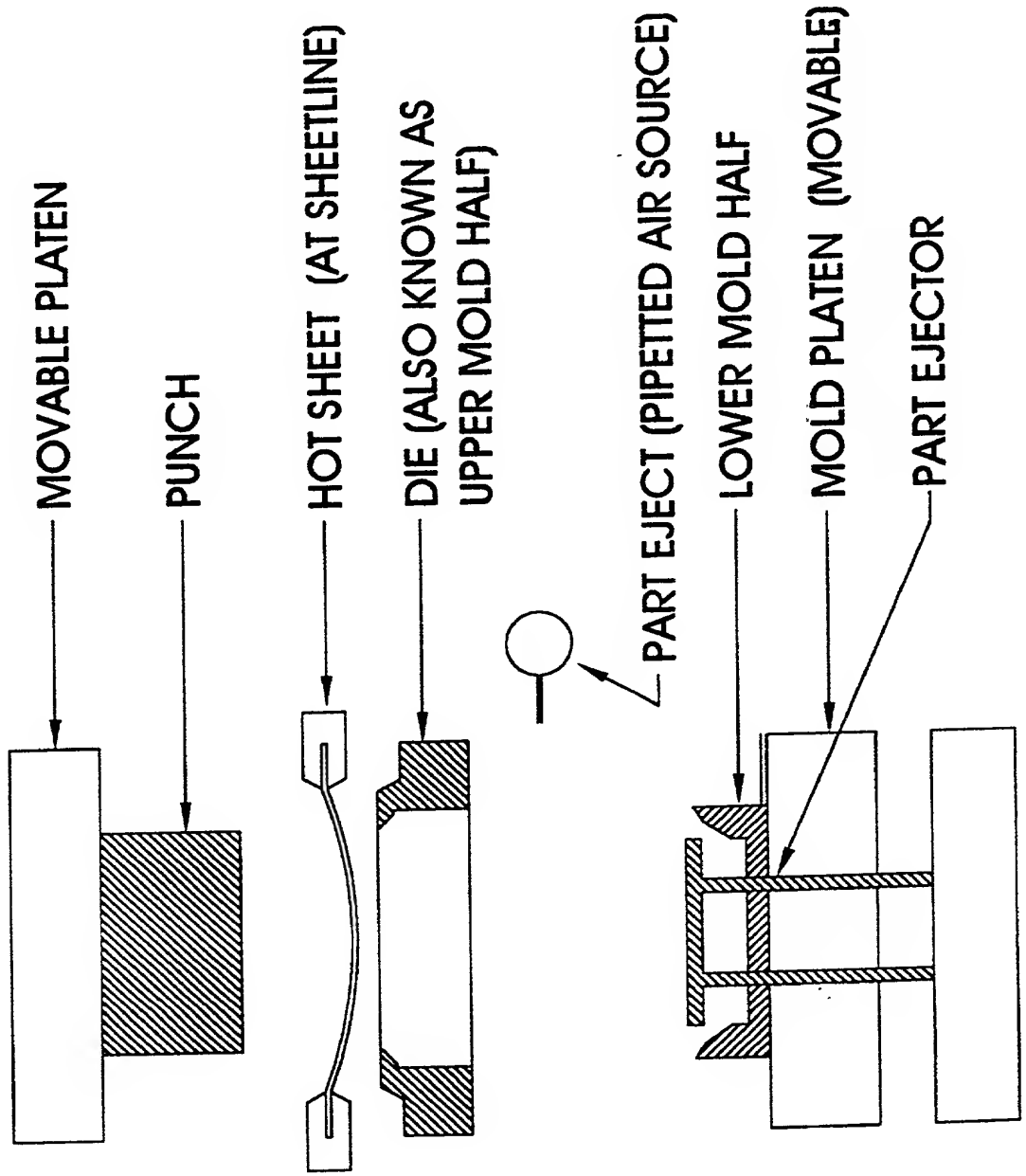
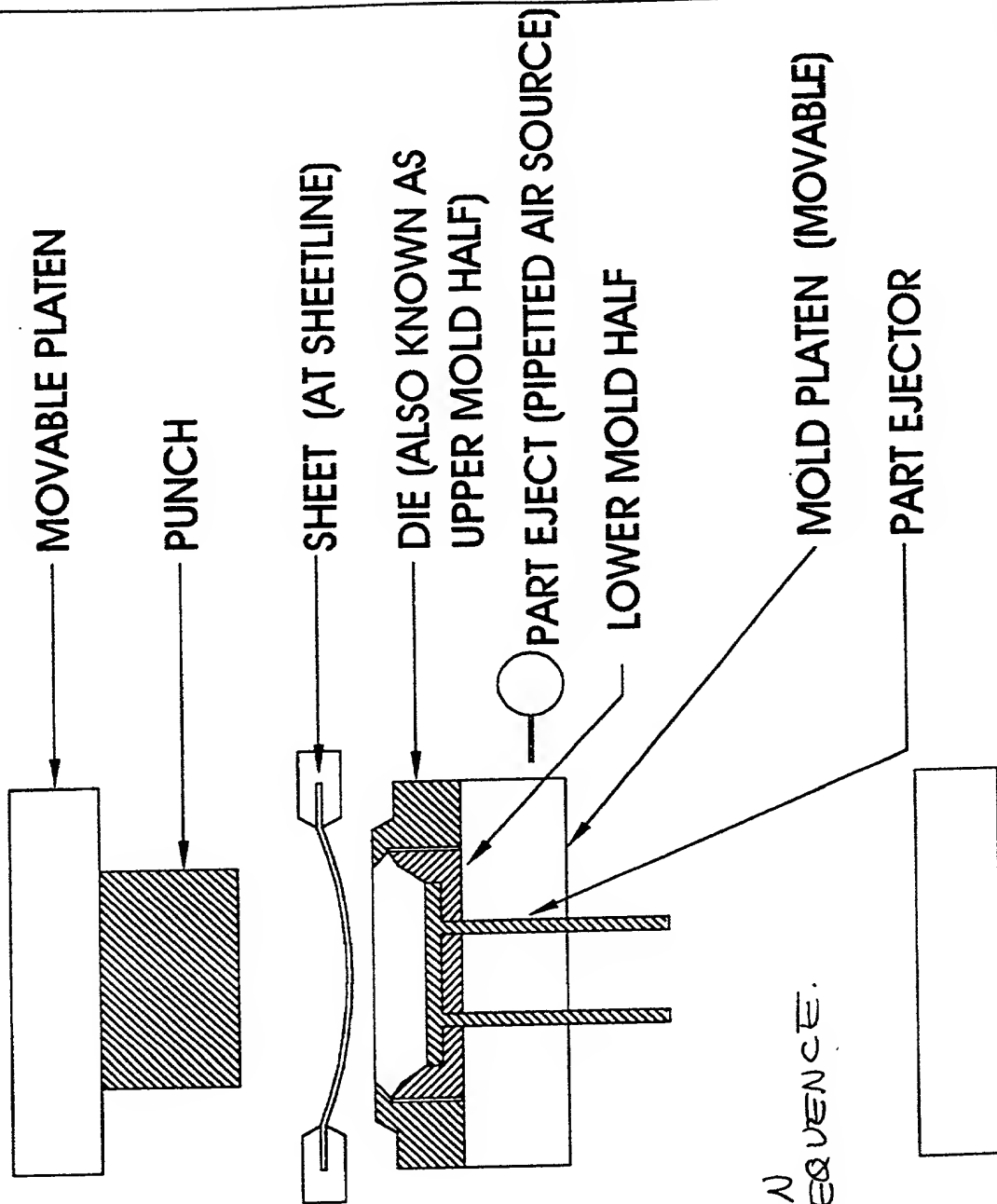


Fig. 26

Donna D. Brown 4/17/00

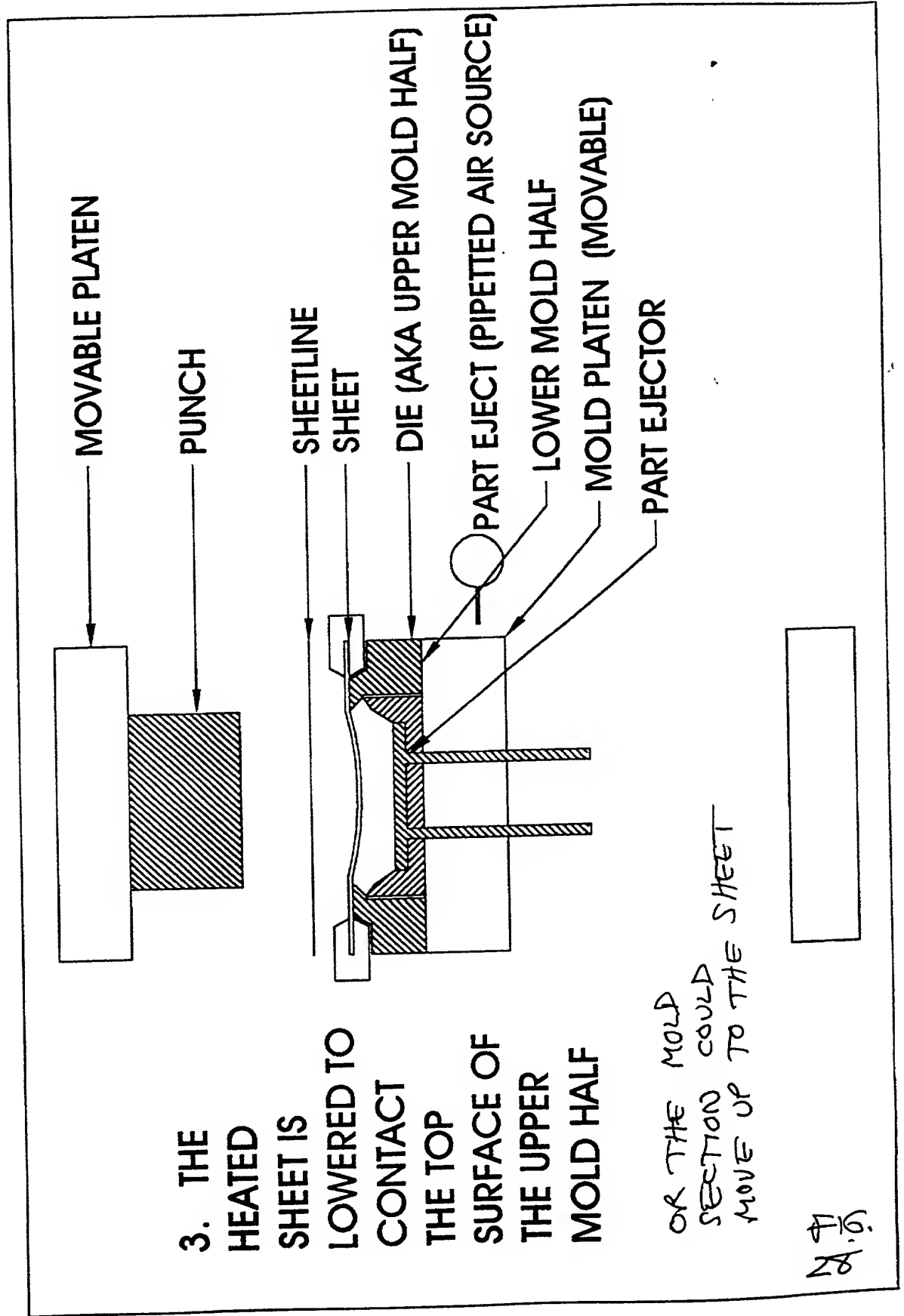
2. THE LOWER MOLD HALF IS RAISED TO COMPLETE BOTH TOP AND BOTTOM OF MOLD CAVITY.

OR PERFORM IN DIFFERENT SEQUENCE.



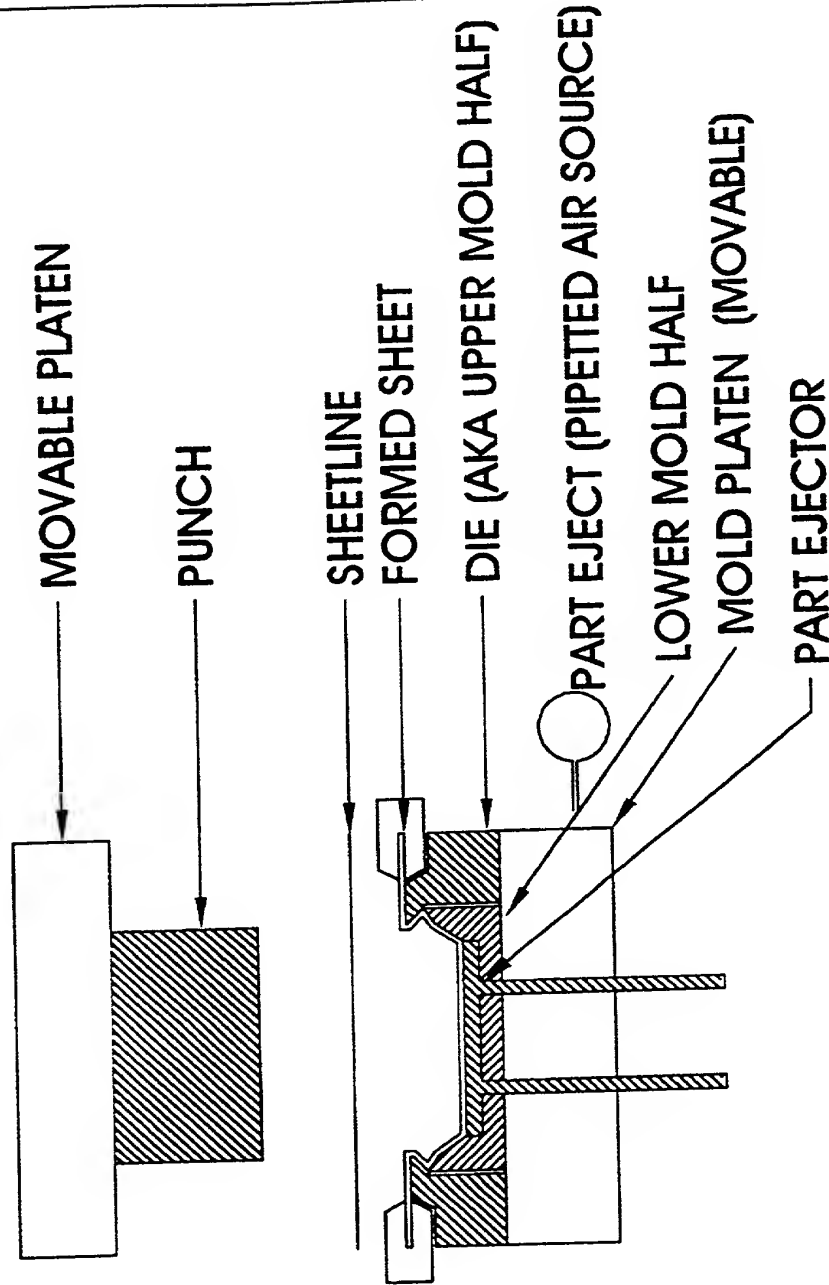
216.
27

Don D. Brown 4/17/00



Exam 4/17/00

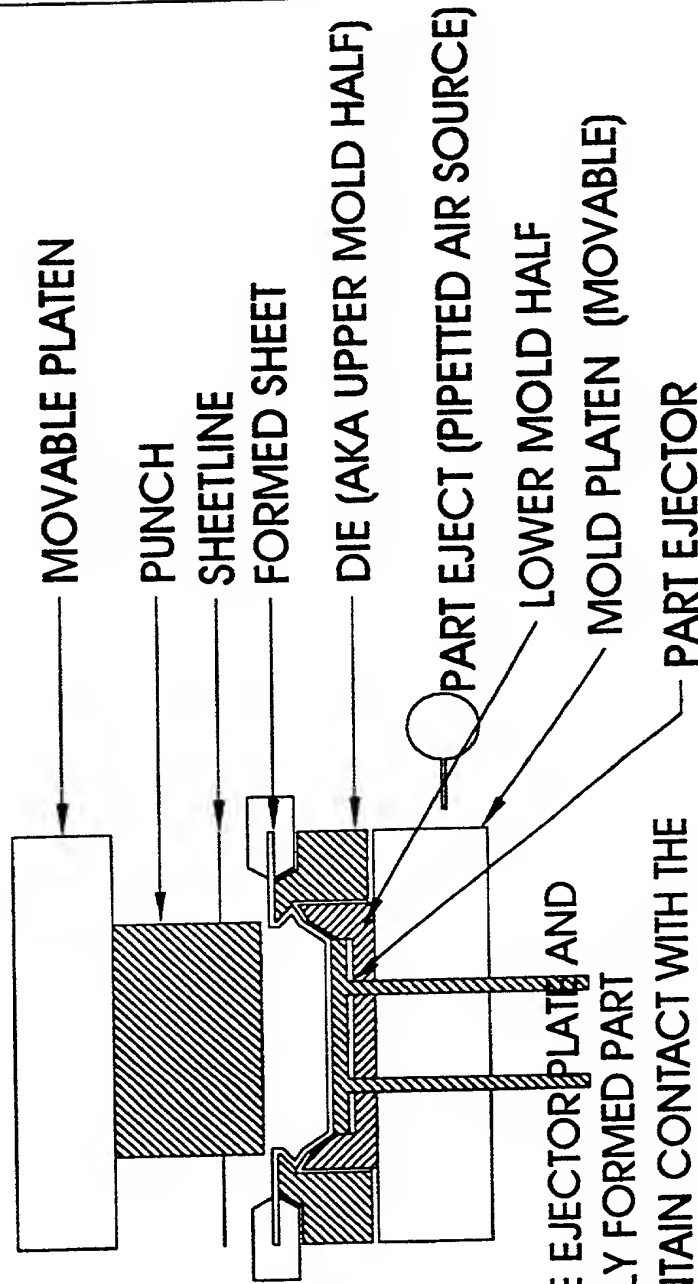
4. THE SHEET IS DRAWN INTO THE MOLD BY EITHER (OR BOTH) PRESSURE AND/OR VACUUM. THE SHAPE OF THE MOLD CAVITY IS DUPLICATED IN THE THERMOFORMED PLASTIC SHEET.



16.29

Ben 4/17/00

5. THE PUNCH MOVES TOWARD THE SHEET AND AT THE SAME TIME THE LOWER MOLD HALF MOVES DOWN, SO THAT THE PART WILL NOT BE CRUSHED DURING THE PUNCHING OF THE PART



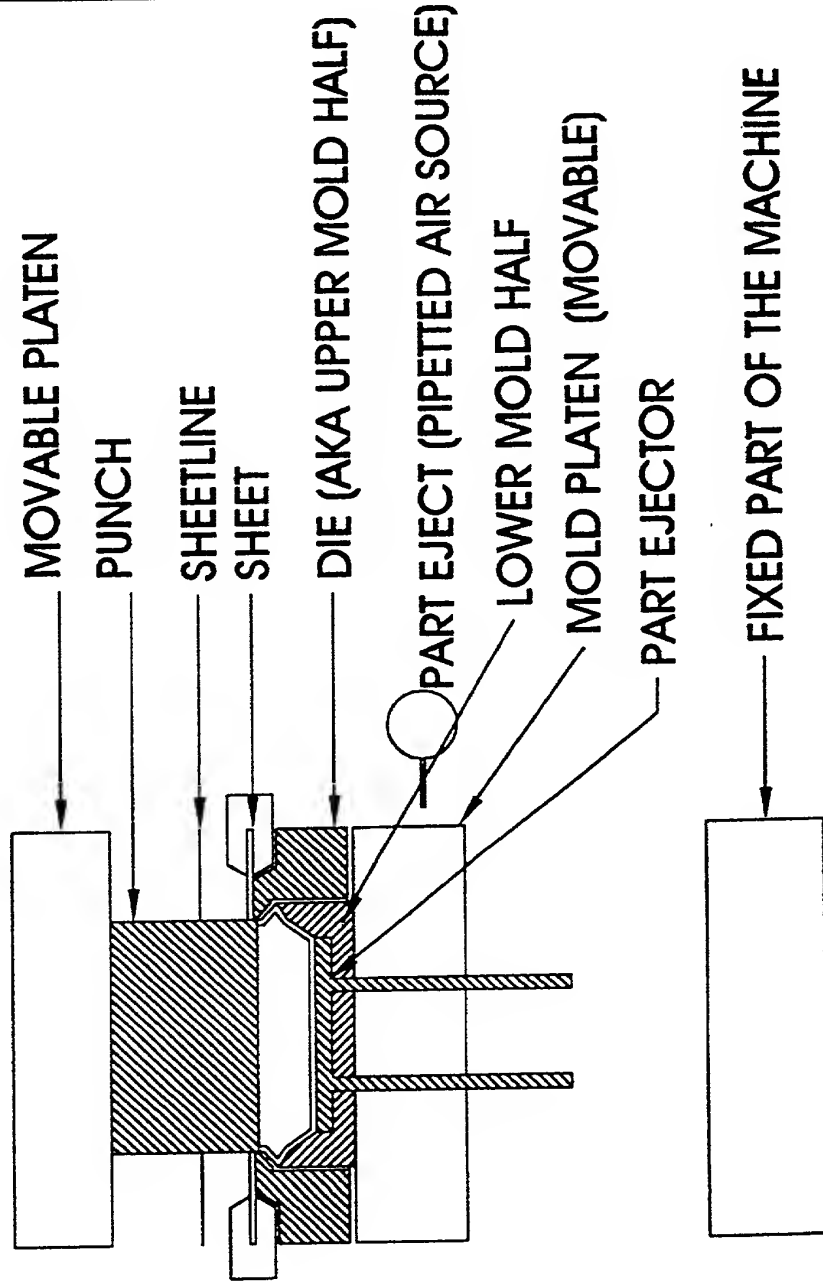
LOWER MOLD HALF COULD MOVE UP/DOWN BY AN AIR CYLINDER TO CREATE SPACING.

WJ
OG

4/17/00
Sam S. Smith

6. THE PUNCH CONTINUES TO MOVE DOWN AND PUNCHES THE FORMED PART OUT OF THE WEB. THE EJECTOR VACUUM IS STILL ON AND CONTINUES TO HOLD THE PART ON THE EJECTOR PLATE AND IN THE LOWER MOLD.

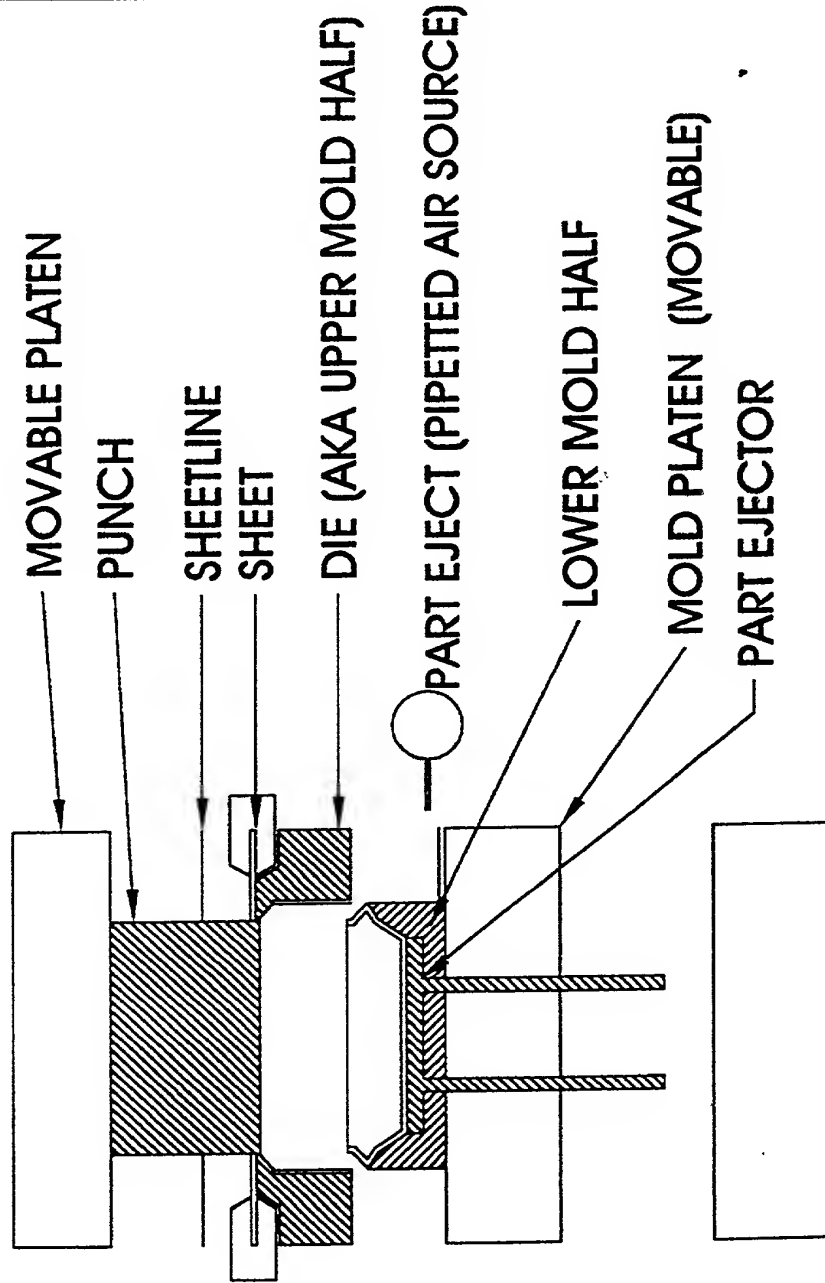
OR MOVE MOLD AND DIE UP TO THE PUNCH.



7
 8
 9

Donna Branch/17/00

7. THE LOWER MOLD HALF MOVES DOWN TO CARRY THE PART BELOW THE UPPER MOLD HALF, SO THAT THE PART MAY BE REMOVED.



#16. 32

Don S. Ben 04/17/00

8. THE LOWER MOLD PLATEN CONTINUES TO LOWER. THE FREELY MOVING EJECTOR PLATE IS STOPPED BY ITS GUIDE-RODS STRIKING A FIXED SURFACE OF THE MACHINE.

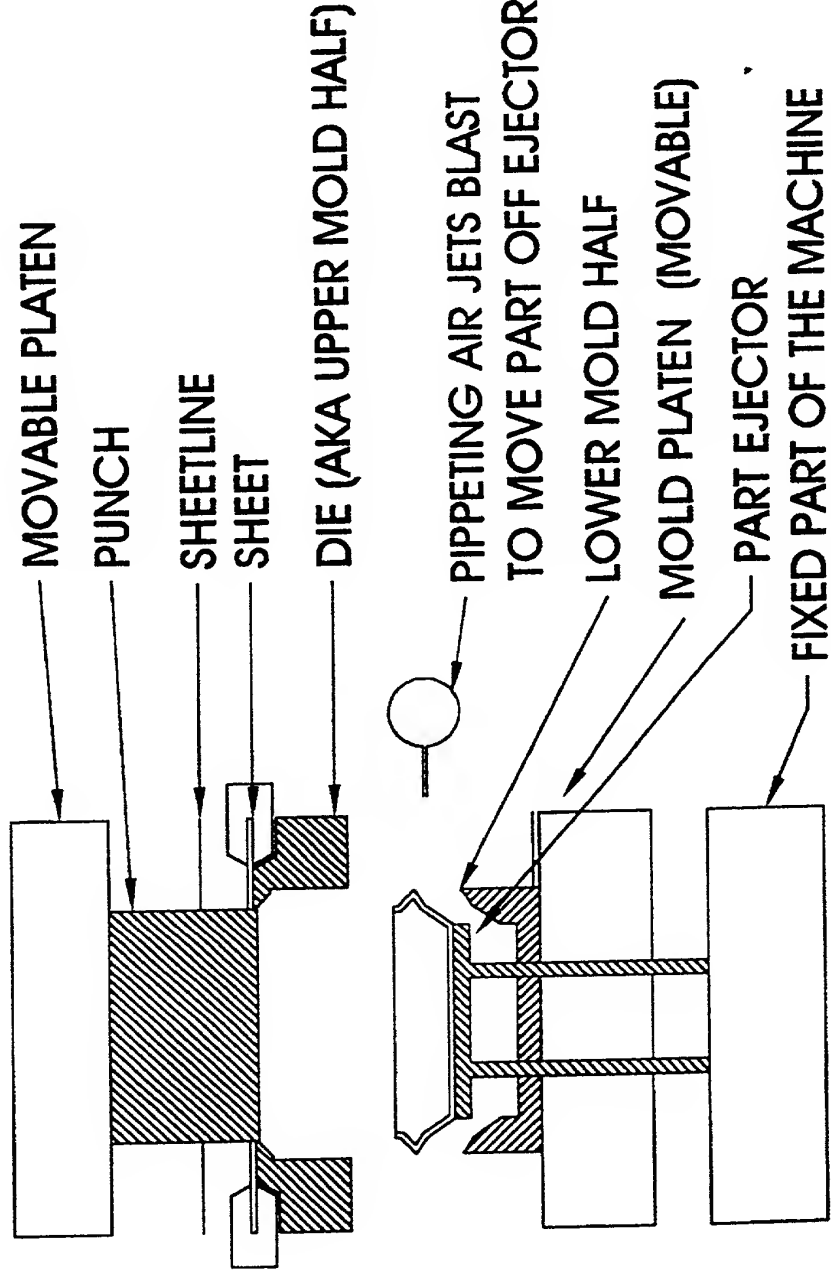


FIG. 23

Sam D. Ben 04/17/00

9. THE
VACUUM ON
THE EJECTOR
PLATE GOES
OFF AND
THE PART IS
BLOWN OFF
OF THE
EJECTOR
PLATE.

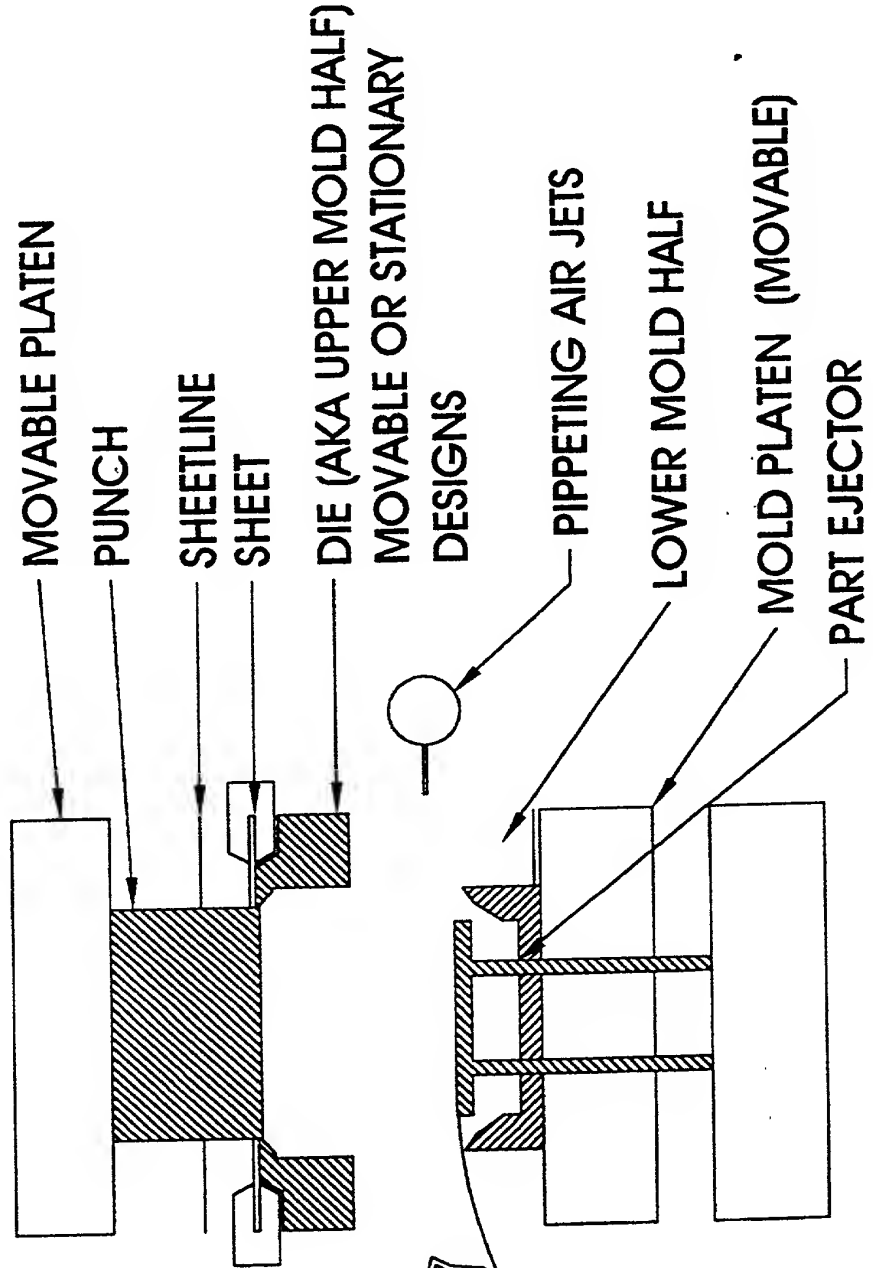


FIG. 34

Ben D. Brown 04/17/00

10. THE PART IS GUIDED BY RODS INTO THE STACKER MECHANISM TO BE NESTED IN A STACK BELOW.

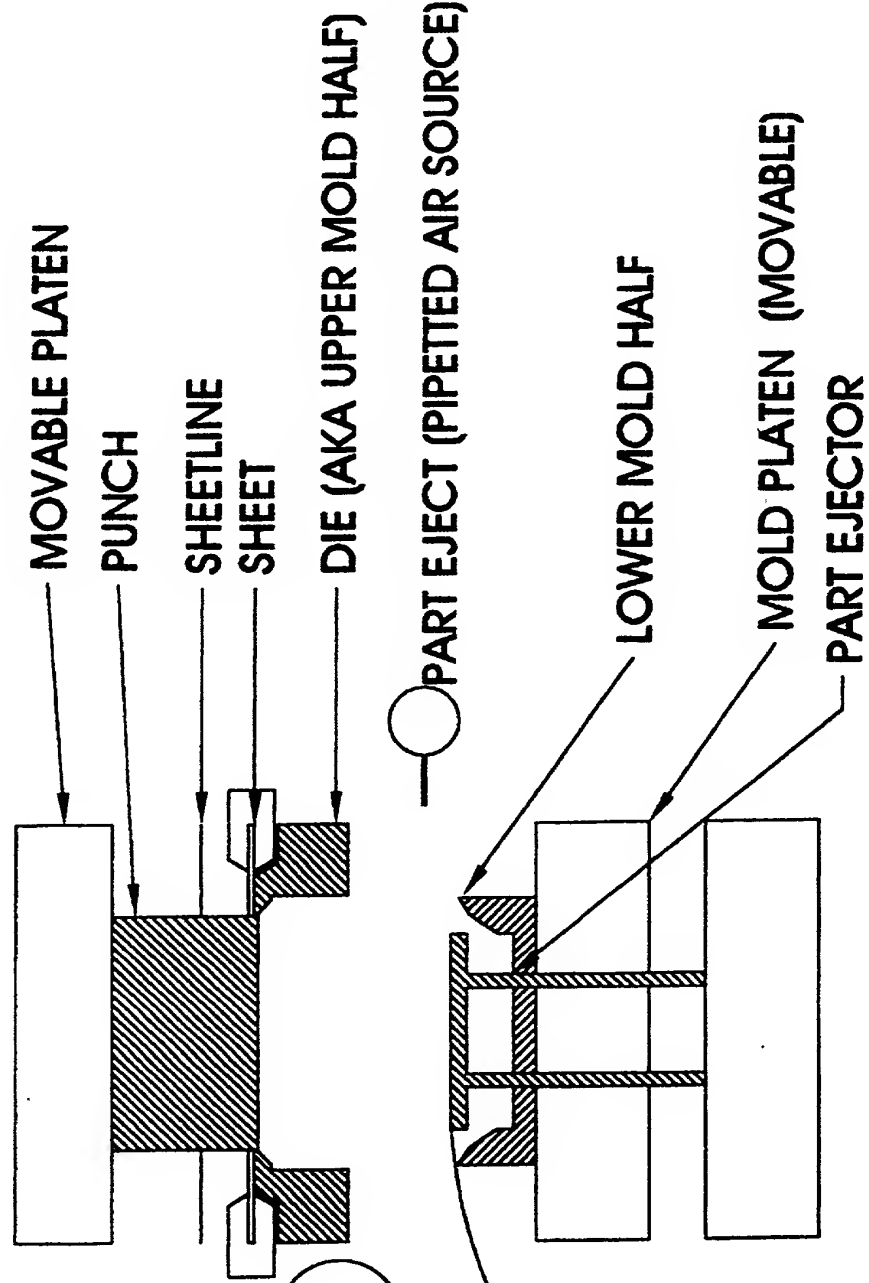
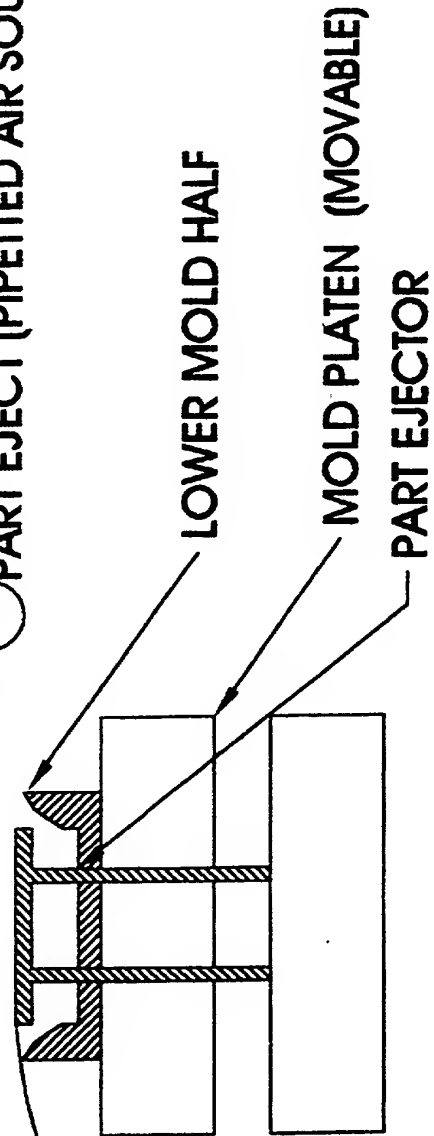


FIG. 35



Edwin E. Bunn 04/17/00

11. THE PUNCH MOVES UP TO ITS WAITING POSITION. THE HEATED SHEET IS ADVANCED TO THE MOLD POSITION.

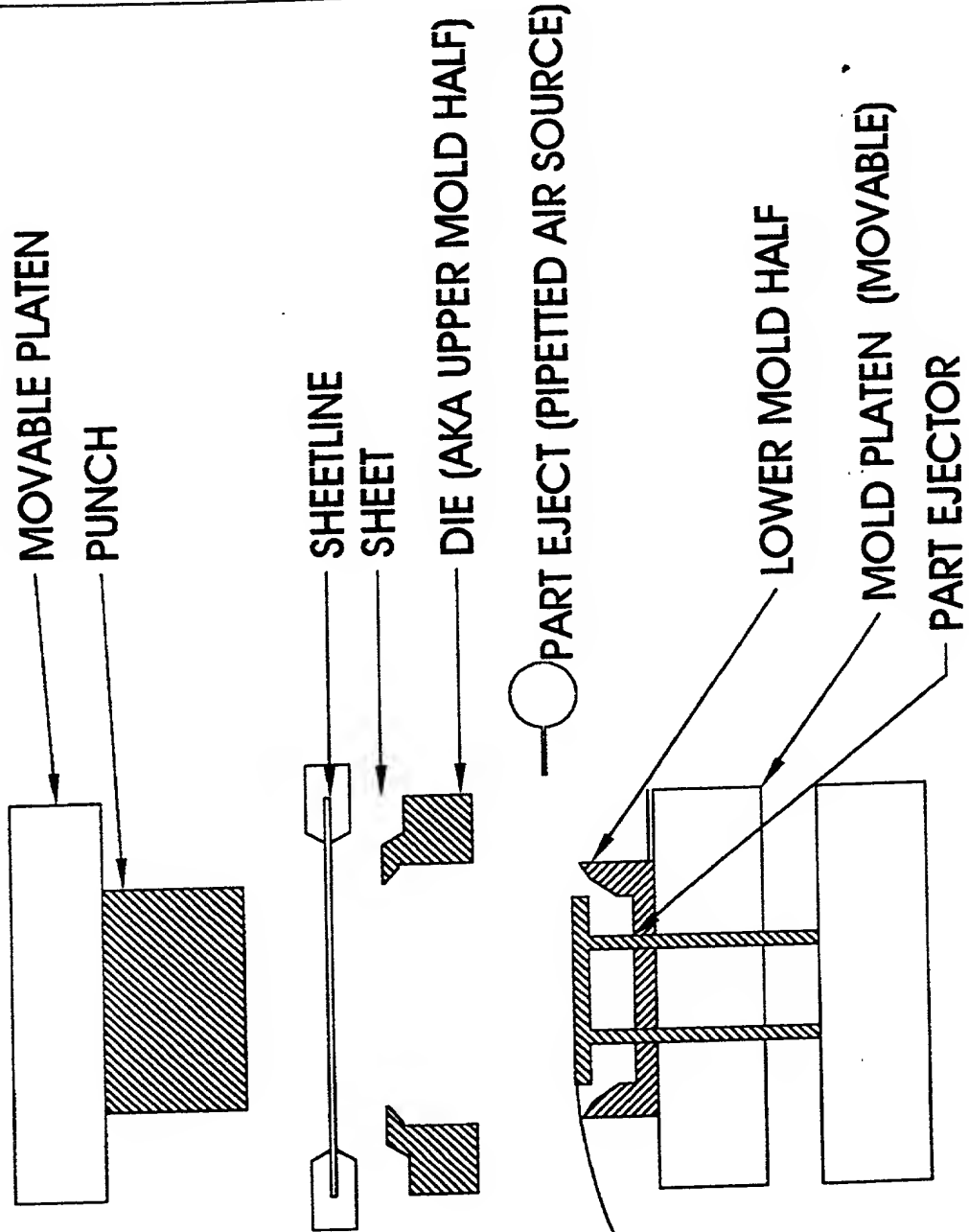
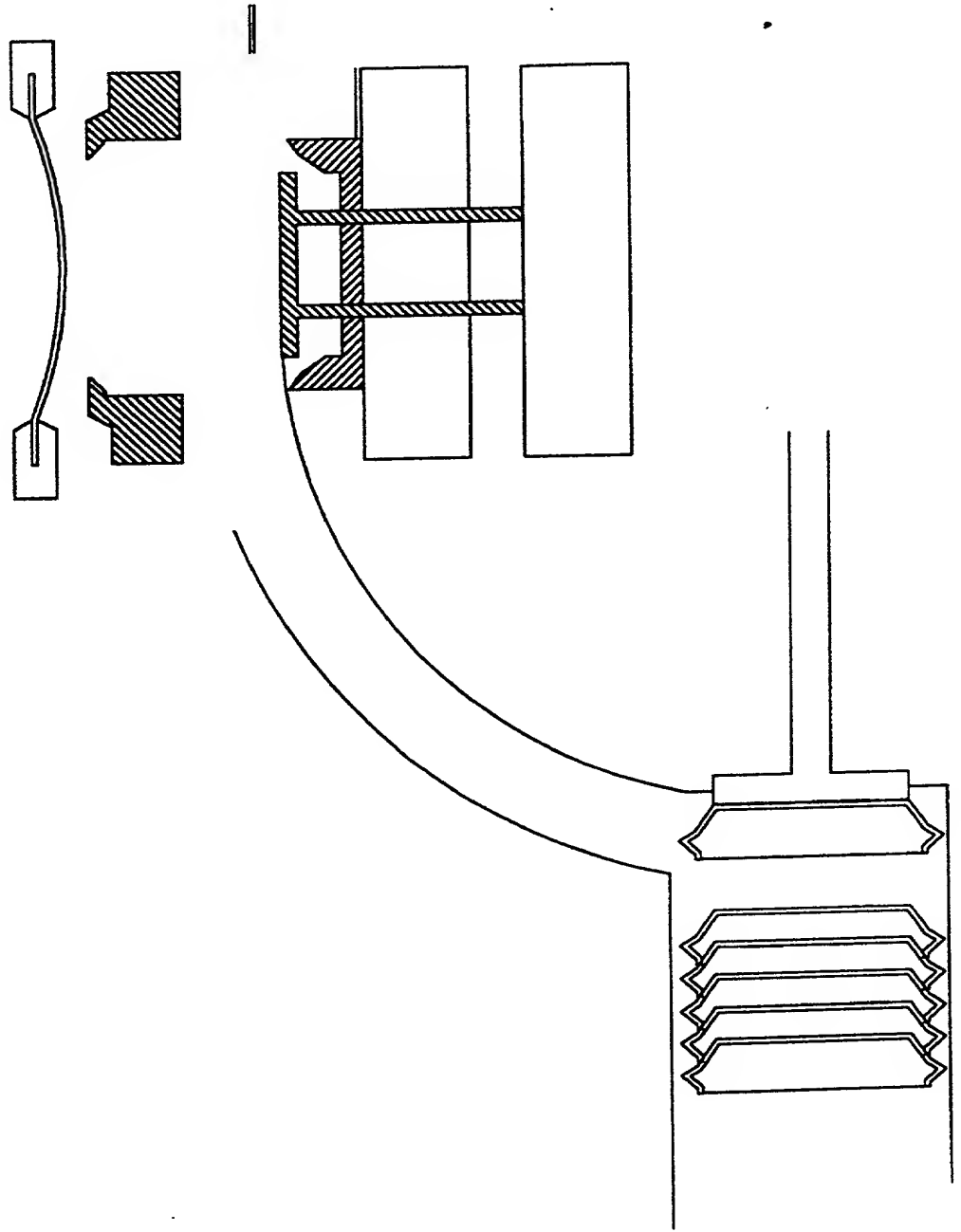


FIG. 36

Ben Q. Ben 04/17/00

12. THE PART IS INDEXED FOR AN IN-LINE OPERATION, SUCH AS PUNCHING HOLES, OR PRINTING; OR PUSHED INTO A STACK FOR FINAL PACKAGING.

FIG. 37



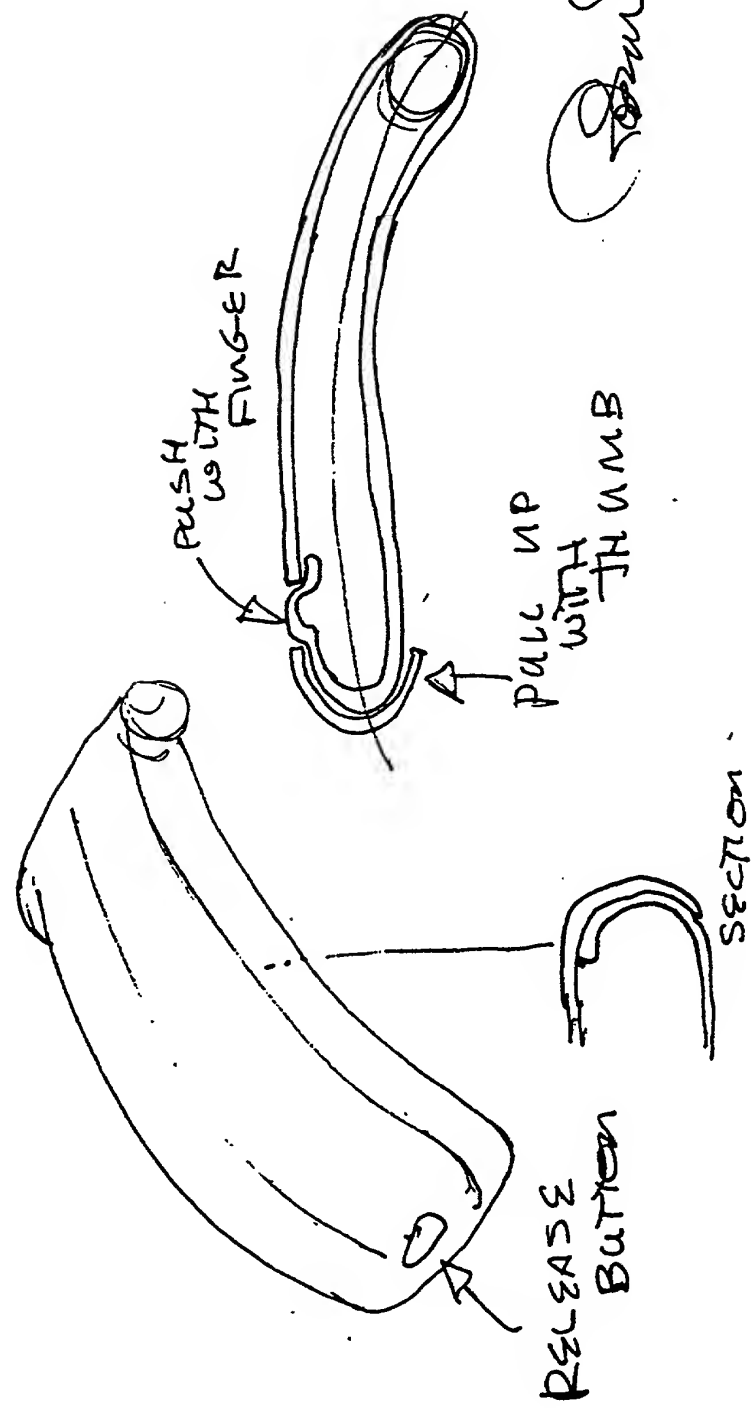
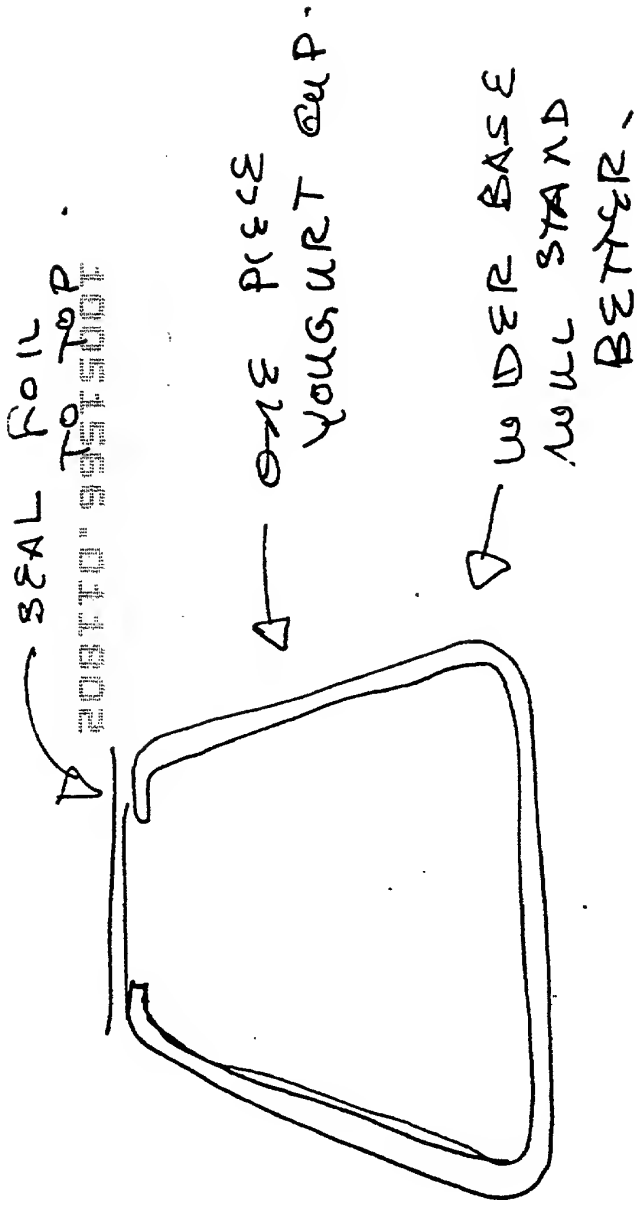
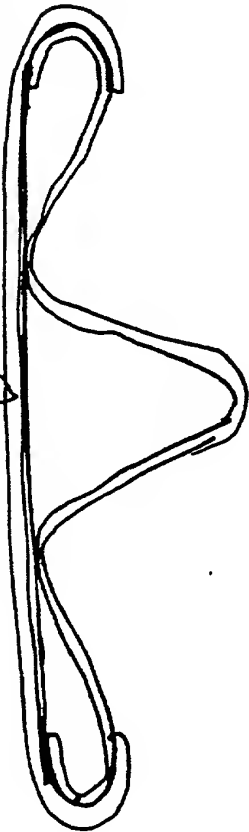


FIG. 38

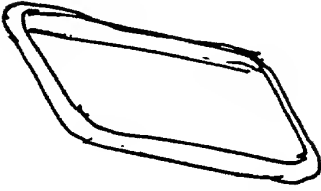
4/17/00
Sam D. Bair

PICTURE HOOK

PICTURE

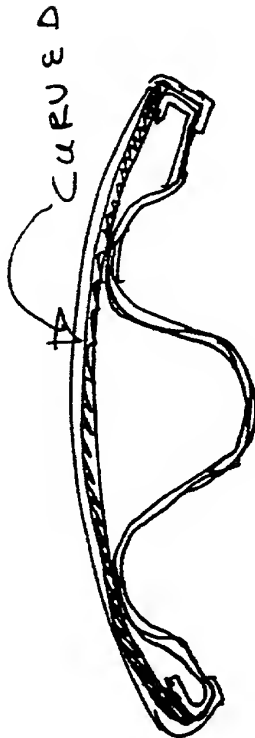
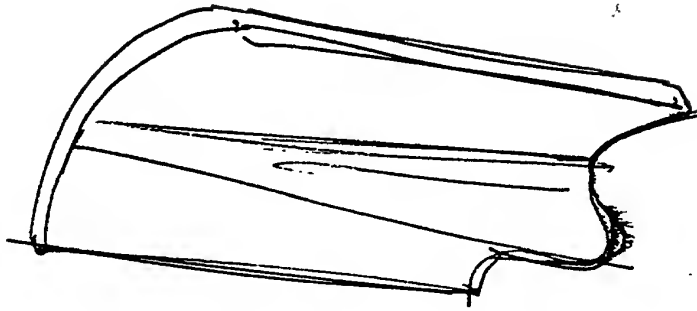


BACK
WILL
HANG
ON
NAIL
HEAD



PICTURE
FRAME

PIX-EL-FRAME



CURVED

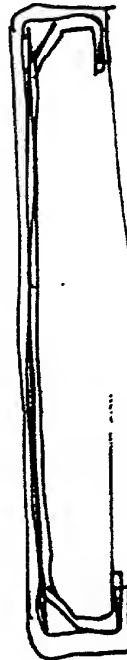


FIG. 39

04/17/00
P. J. Egan

← ROTATING VALVES
FOR COUNTER.

← DETENTED FOR SNAP

— COUNTER FOR PLAYING GAMES
SCORING.

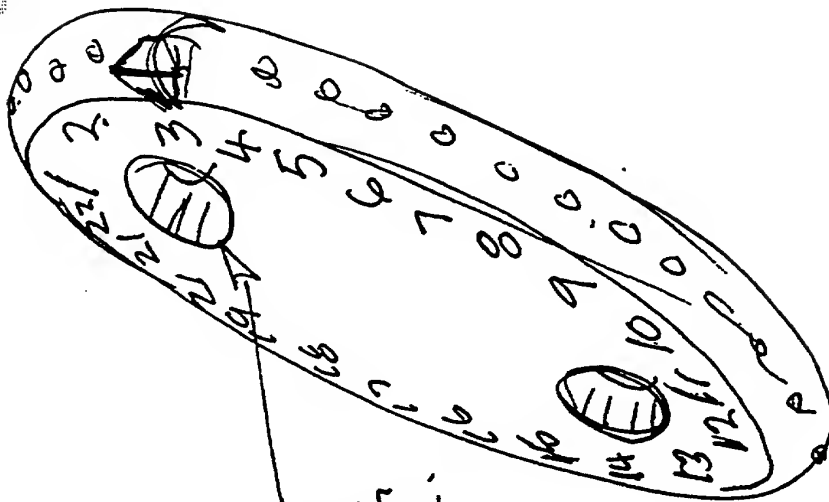
— COUNTER FOR GOLF, CARDS, ETC.

— COUNTER FOR WEIGHT WATCHERS
"POINTS" COUNTER.

—

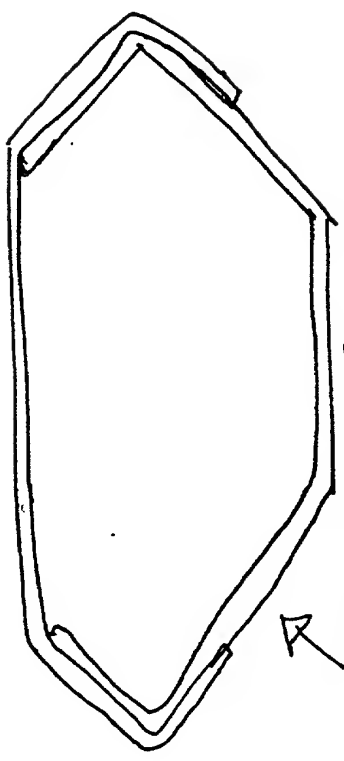
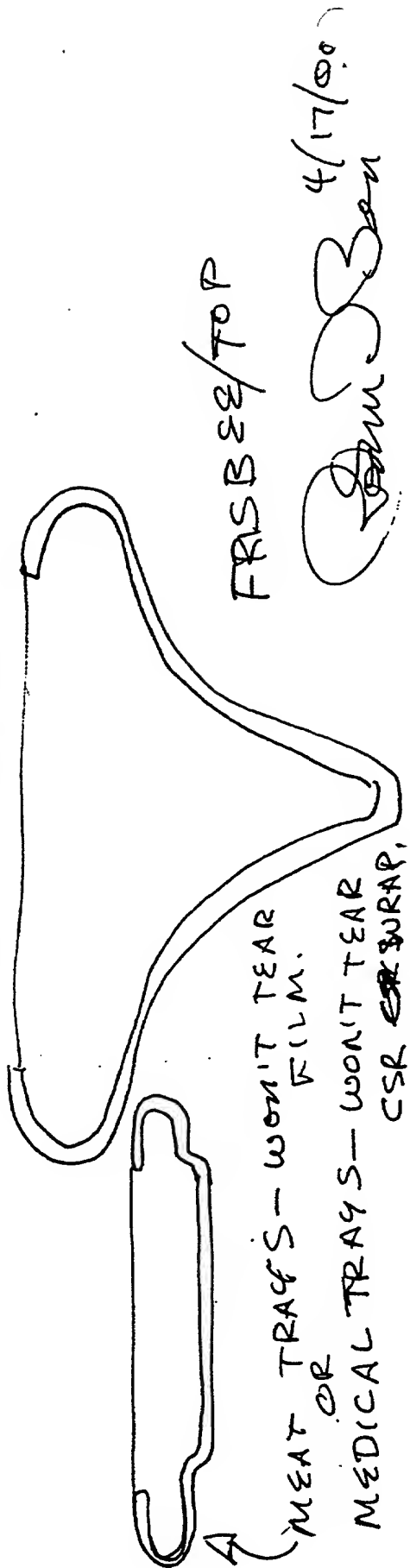


Sam Bam 04/17/00

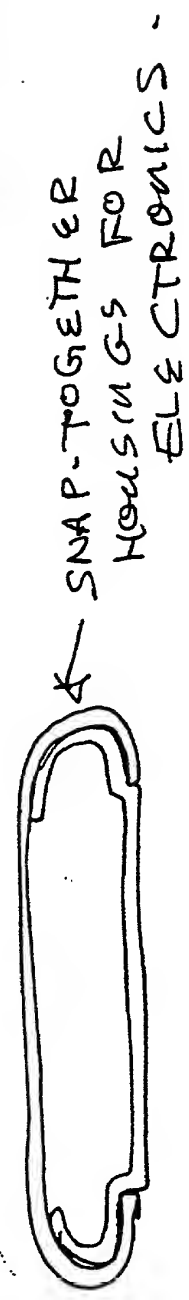
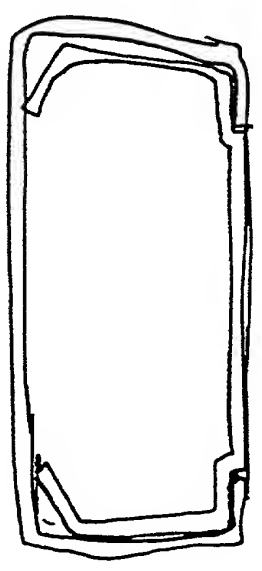


POCKETS
TO MAKE
ROTATING
EASIER.

FIG. 40



DIFFICULT TO
OPEN FOR
TAMPER
RESISTANT.



← SNAP-TOGETHER
HOUSINGS FOR
ELECTRONICS.

FIG. 41

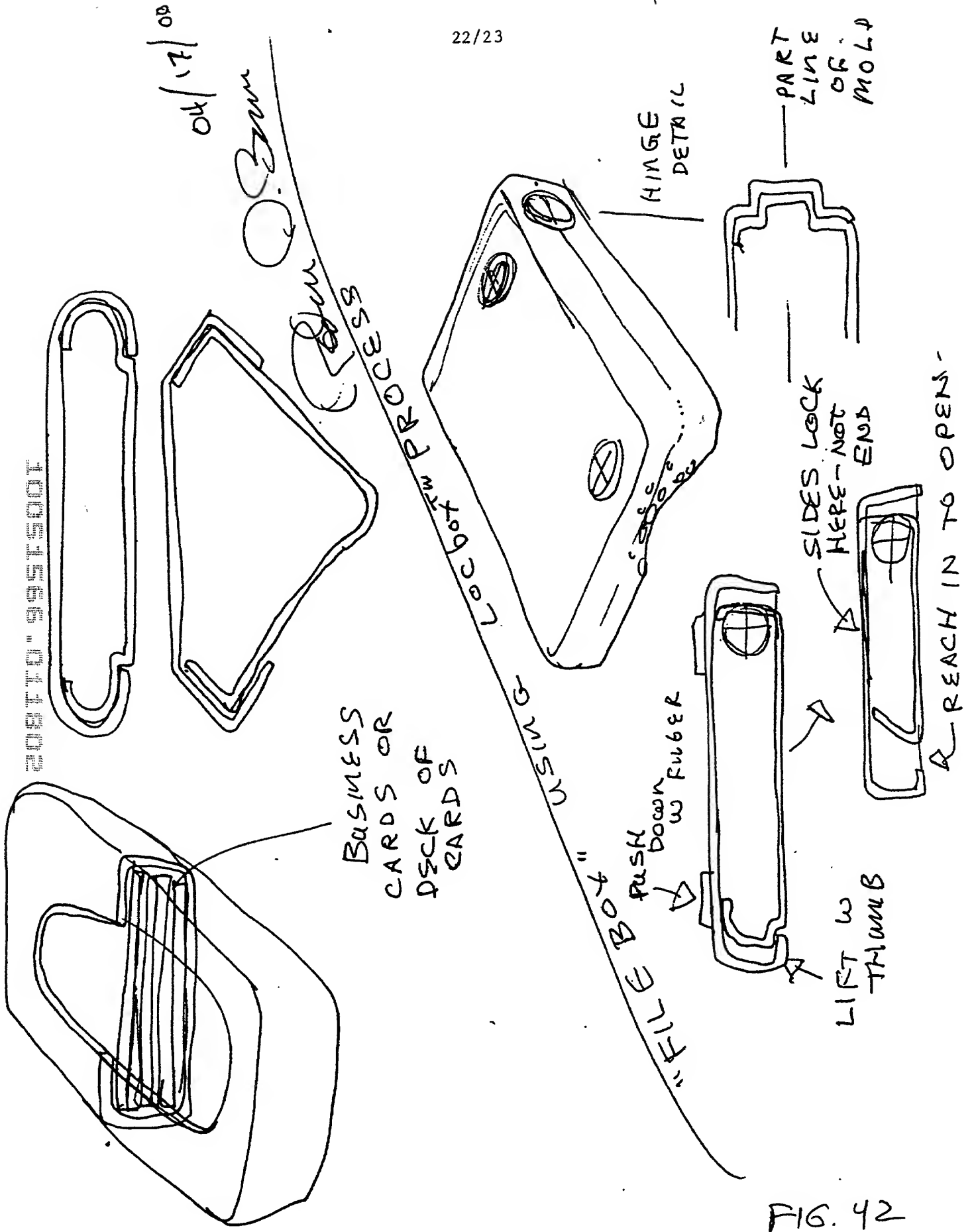
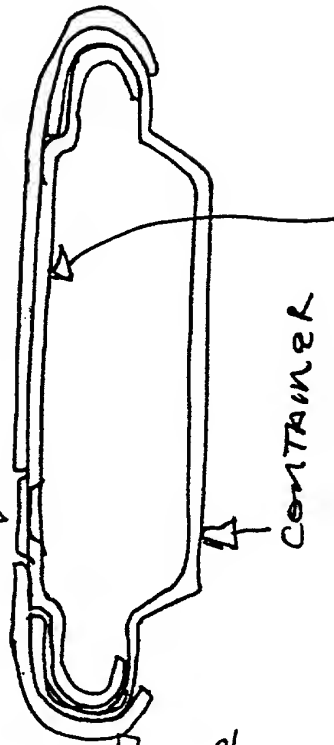


FIG. 42

208770-99575007

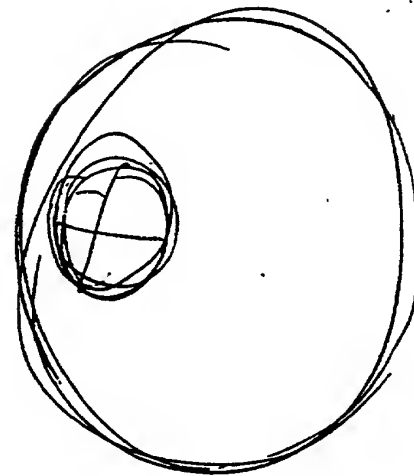
RAISED SHAPE
ON INSERT FOR OPENING.



SNAP-IN
INSERT
TO HOLD
COSMETICS
OR TOOLS

COVER

OPENING
BUTTON



ROTATING
BOX

PILL DISPENSER.

VARIOUS COMBINATIONS.
OF CAVITY
NUMBER

4 FOR 3/PAY
AND ONE

OR 7 FOR
ONE WEEK + BLANK.
BLACK
(CLOSED)

FIG. 43